

Fire Data Management System, FDMS 2.0

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Introduction

A unified method of accessing data is crucial to both experimental and modeling efforts in the development of the science of fire. The FDMS concept is well founded, and very important to experimentalists acquiring data, as well as modelers and others using data related to fires and material properties. A standalone, PC version of the database, FDMS 1.0, currently exists which supports a limited number of fire test method types. This version is not portable across computer platforms and is dependent upon third-party software libraries which are no longer supported. A second generation of the database, FDMS 2.0, is in development which will remedy these problems and provide flexibility for future data needs. As an extension to FDMS 1.0, version 2.0 will play an important part in model verification. The design of FDMS 2.0 allows fire test data and model output data to be stored in the same database. Storage design provides for replicate data for standard test methods as well as compressed data for extensive real-scale tests.

Planned Implementation

FDMS 2.0 provides platform-independent storage, retrieval, and exchange of fire data. This data includes bench-scale and real-scale fire test results, results from available fire models as well as a variety of supplemental information including details on organizations, personnel, products evaluated and their related properties, and test method descriptions. Current development provides for two implementations of the database:

- A centralized database will be accessible to users worldwide with either a text-oriented interface or a MS-Windows style interface on the Internet. Data in the centralized database will be a compilation of data provided from internal and external sources. There will be no edit capabilities for users accessing this database. Import and editing will be handled by the individual(s) responsible for maintaining the database. The centralized database could be expanded in the future to access reports and documentation online as well as to view pictures and run movies using an interface similar to Mosaic.
- Users will also have access to a local, laboratory-specific implementation of the database. This implementation will be platform-independent (IBM PCs, Macintosh, MS-Windows, Unix, etc.) and will be the replacement for the existing FDMS software. The interface will be a superset of the MS-Windows style interface to the centralized database. New functionality provided will enable users to import, edit, and maintain their own database. Users will be able to exchange data with other FDMS users through the common format discussed in the "FDMS Programmer's Reference," NISTIR 5162. In addition, each laboratory will be encouraged to send results to be incorporated into the centralized database.

Additional implementations are under consideration.

Participation

Outside parties are encouraged to contribute available data to FDMS. Laboratories interested in providing test data to be imported into the FDMS centralized database should currently store their results in the FDMS import format to be presented. Any future versions of FDMS will be backwards-compatible in support of the import formats so that data generated today can be loaded once the centralized database is completed.

Software developers of complementary packages such as CFAST and HAZARD should consider supporting the FDMS import formats to be presented.

References

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